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# PUBLIC HEALTH REPORTS

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## TUBERCULOSIS SANATORIUM, FORT STANTON, N. MEX.

A REPORT FOR THE YEAR ENDED JUNE 30, 1913, OF THE SANATORIUM MAINTAINED BY THE PUBLIC HEALTH SERVICE FOR THE TREATMENT OF TUBERCULOUS PATIENTS.

By F. C. SMITH, Passed Assistant Surgeon, United States Public Health Service.

In the Public Health Reports of August 30, 1912, there was published a description of the sanatorium for the treatment of tuberculosis patients maintained by the United States Public Health Service at Fort Stanton, N. Mex. An account of its administration during the year ended June 30, 1912, was given at the same time. Those desiring more information in regard to the sanatorium and its previous work are referred to the above report. The report here presented gives similar information for the year ended June 30, 1913.

### Patients and Administrative Personnel.

Number of patients present July 1, 1912.....	176
Number of patients admitted during the year.....	138
Total number treated during the year.....	314
Number of patients discharged during the year.....	168
Number of deaths (included in preceding item).....	47
Number of bodies interred in sanatorium cemetery.....	46
Number of patients present June 30, 1913.....	146
Maximum number of patients during year.....	212
Minimum number of patients during year.....	146
Total number of days treatment furnished patients.....	65, 999
Number of officers and attendants.....	75
Number of patients who left against advice.....	19
Number of patients discharged for causes affecting discipline.....	4
Number of patients transferred to other stations (dyspnea).....	1
Number of physical examinations made during the year.....	1, 112

The number leaving against advice and discharged for causes affecting discipline was small. This fact indicates among other things a high degree of intelligence and a cheerful compliance with sanatorium rules on the part of the majority.

*Patients discharged during the year, with stage of disease and results of treatment.*

	Appar- ently cured.	Arrested.	Im- proved.	Unim- proved.	Died.	Total.
Incipient.....	10	7	3	1		21
Moderately advanced.....	1	16	4	5	5	31
Fair advanced.....	3	32	16	20	42	113
Nontuberculous (lungs).....	1	1		1		3
Average stay in days.....	256	411	217	366	411	

Sixty-seven and eight-tenths per cent of the cases are far advanced when received. Those hopelessly sick are encouraged to remain; hence the long average stay of those who died or left unimproved. Of the 47 who died, 10 remained over 2 years, 7 between 1 and 2 years, 12 between 6 and 12 months, and 6 between 3 and 6 months. Six died within a month after arrival, one of these having been here only 4 days. Practically all cases leaving with good results were given employment for several months before discharge to test their arrest and afford means to depart.

## **Ultimate Results of Treatment.**

Efforts to trace discharged patients reported last year have been continued without gratifying results. To summarize: Out of 1,924 patients whose treatment terminated more than six months ago, 951 are known to be dead, 687 of these having died at this hospital. The location and condition of 853 could not be ascertained.

### **Cause of Death.**

Forty-seven deaths occurred during the year among patients and two others among tuberculous attendants. As mentioned in previous reports, pulmonary hemorrhage is a frequent cause of death at this hospital. I have not been able to secure data on this subject from institutions at sea level. Deaths from hemorrhage are said to be very infrequent at Fort Bayard, a similar institution at practically the same altitude.

The causes of death during the year were as follows:

Tuberculosis of lungs.....	36
Tuberculosis of lungs and hemorrhage, sudden death.....	4
Broncho-pneumonia.....	2
	—
Abscess of brain and tuberculosis of lungs.....	6
Tuberculosis of lungs and pneumonia.....	1
Tuberculosis of lungs and tuberculous peritonitis.....	1
Tuberculosis of lungs and tuberculous pyelo-nephritis.....	2
	1
Total deaths.....	47

**Dental Report.**

From November until May the station had the services of an excellent dentist. The usual institutional work and, as will be seen from the above report, some work not usually included in such was rendered free to the patients. The position is at present vacant, which is a matter of regret, as the presence of a dentist is constantly necessary. Routine examinations of the teeth were made by the dentist every two months, and such prophylactic measures as were necessary instituted. This procedure is extremely valuable and should, I believe, constitute a part of the routine treatment of tuberculous cases.

*Work done Nov. 1, 1912, to May 1, 1913.*

Examinations only.....	175
Amalgam fillings.....	100
Cement fillings.....	70
Synthetic cement fillings.....	11
Combination (amalgam and cement) fillings.....	17
Ames's copper cement fillings.....	3
Temporary stoppings.....	12
Recementing gold crowns and inlays.....	7
Gold fillings (test case).....	2
Fillings removed.....	8
Plates (3 full dentures).....	6
Scaled and polished (number of patients).....	55
Alveolar abscess (treatments).....	170
Alveolar abscess (lanced).....	11
Teeth extracted.....	65
Roots extracted.....	79
Putrescent pulps (removed and teeth treated).....	18
Pulps devitalized.....	4
Pyorrhea treatment.....	74
Sittings (for preparatory work).....	11
Toothache (treatment only) .....	3
Pulps capped and preserved.....	22
Root canals, cleaned out, treated, and filled.....	41
Operations for necrosed bone.....	9
Antrum, suppurating, opened for drainage.....	2
Sittings for irrigating and treating antrum.....	10
Suppurating third molar, lanced gum.....	1
Broken teeth, ground down and polished.....	3
Bridge repaired.....	1
Patients attended in hospital for treatments and extractions.....	11

**Treatment.**

A carefully regulated dietetic-hygienic regimen is followed. Rest in bed is enforced in febrile cases. Tent houses are not assigned until after at least four days' observation in hospital. Exercise is not allowed, except tent-house routine, during the first month, and as most of our cases are far advanced, the majority never attain

the exercise squads. A small number of suitable cases are eventually assigned light work for one hour per day, and if this is well borne the subjects may secure regular employment with compensation. (See Earnings of patients.)

A full diet is allowed all uncomplicated cases. Lunches between meals are not prescribed except to a few. No special articles of diet are urged to the exclusion of others, although 1 pint of milk is issued to each patient immediately before bedtime in addition to the pint at each meal.

An open-air life is strictly enforced. All tent houses, 91 in number, bed shelters, lounging room, and hospital are well screened against flies and are kept constantly open on all sides to freely flowing air. The printing of the sanatorium's rules, in Public Health Bulletin No. 60, of vest-pocket size has greatly aided in carrying out hygienic and prophylactic measures.

Some of the newer remedies proposed have been tried in selected cases, and at present a class of 22 is taking Von Ruck's watery extract and another class of 22 is being treated with a vaccine of nonvirulent tubercle bacilli. There is a pronounced influence on the mental condition of patients so treated which has a salutary effect. Apparatus for induced pneumothorax is being secured.

#### Earnings of Patients, Etc.

The policy of this institution to give two or more months' work to patients before they are discharged has been consistently carried out during the year and in a number of cases discharged patients have been retained as attendants after sanatorium treatment was no longer necessary. The amount earned by patients on the pay roll was \$10,251.82, and by patients substituting for healthy attendants on the pay roll \$307.68. The latter item is chiefly the Sunday relief work required of the farm forces for those employed inside as waiters, scullions, firemen, etc. The amount earned by ex-patients was \$3,340.33. Of 45 patients who were on the pay roll over 30 days, 9 were discharged apparently cured and 34 arrested. At the present time 25 patients are on the pay roll and 12 are present whose services have been temporarily discontinued for reasons due to their physical condition.

Recognizing the chronic nature of tuberculosis and the fact that, while some of our patients are not able to leave the institution, they can perform light work, private enterprise of various kinds is encouraged. Personal services to officers and their families are rendered in various capacities, and patients are employed not only in domestic service, but in cleaning clothes, mending shoes, making ornaments, and in numerous other ways. For an enumeration of the various

occupations as well as the approximate amount earned see the following table:

*Earnings by private enterprise.*

Occupation.	Number of patients employed during year.	Aggregate of hours.	Approximate amount earned.
Clerk in store.....	4	2,164	\$400
Shoemaker.....	3	979	300
Barber.....	4	1,971	250
Hostler.....	4	1,180	125
Cook.....	4	750	300
Waiters and scullion.....	7	3,000	360
Other domestics.....	34	8,333	1,100
Miscellaneous employment, including painting, cleaning clothes, polishing shoes, photography, attending pool table, etc.....	32	4,459	500
Miscellaneous employment, making trinkets for sale elsewhere.....	12	1,625	.....
Total.....	104	24,461	3,335

Passed Asst. Surg. A. J. Lanza, by whom this table was prepared, has charge of all the ambulant squads and maintains the same supervision over those privately employed as over those on the pay roll and on exercise squads proper. The benefit of all such activities is dependent on careful observation of clinical symptoms as it is in all forms of graduated labor.

The total amount earned at this institution during the past year by individuals who were admitted as patients is seen to amount to \$17,234.83.

A patient must qualify for a position with remuneration by work in the exercise squads where patients are employed from one hour per day upward. As mentioned above, a comparatively small number of our total admissions ever attain the exercise squads, as most of our patients are for advanced cases. The utmost caution is observed before exercise is prescribed, and all such assignments are tentative under close and continued observation. A patient who objects to work is allowed to take an equivalent of exercise by walking, but one who declines work as exercise is not considered eligible for a position with remuneration.

Total number of patients working on exercise squads.....	110
Total hours work, exercise.....	3,194

The principal items included in above are:

	Hours.
Passing wood to power saw.....	1,486
Hauling stove wood with horse and wagon.....	880
Garden work.....	222
Cleaning in hospital wards.....	147
Preparing vegetables, splitting kindling, painting, cleaning grounds, etc.....	459

It will be seen that the unpaid labor rendered in exercise squads is small in proportion to that rendered in private enterprise or upon the pay roll, both of which are with remuneration. No articles of

clothing, except pajamas and slippers for hospital patients, are supplied at this institution, and it is fortunate that means can be found for patients to supply themselves with many necessaries incident to a prolonged sanatorium stay. In all, 164 patients have earned money in various capacities during the year. Eighty-six of these have been discharged, of which 65 were apparently cured, arrested, or improved.

#### **Religious Services.**

A nonsectarian service for patients and others is held each Sunday evening in the hall by the chaplain, who also conducts additional services at various times for those of his own faith in a small chapel provided for that purpose. Religious services were read at each interment in the sanatorium cemetery.

#### **Library Report.**

There are now 3,014 bound volumes in the sanatorium library, as follows:

Fiction, romance, etc.....	2,019
Miscellaneous.....	231
Travel.....	159
History.....	142
Science.....	85
Poetry.....	58
Government publications.....	68
Spanish novels.....	27
Religion.....	225

From private funds contributed at this station 17 magazines and 3 daily papers are subscribed for, and, in addition to these, 52 other periodicals are regularly received for use in the library from subscribers living for the most part at this station.

The Maine Sanatorium News, the Crusader, Spunk, State of Michigan Sanatorium Bulletin, Evangelical Lutheran Sanatorium Review, Forest Leaves, and the Journal of the Massachusetts State Sanatoria, all of which are magazines devoted to the interests of tuberculous patients, are received at the library through the courtesy of their respective publishers and are widely read. One hundred and ninety-one bound volumes were donated to the library during the year.

Books, magazines, etc., were issued from the library during the year, as follows:

	Books.	Magazines.	Tuberculosis magazines.
To patients.....	3,693	4,335	601
To attendants, etc.....	890	664	137
	4,583	4,999	738

Total books and magazines issued during year, 10,320.

### Amusements.

A four-film moving picture show was given in the hall each week throughout the entire year. These entertainments are given by the amusement association, a private organization of patients and attendants, and are free to all patients. Each show lasts about 1 hour and 20 minutes. The average attendance was approximately 150. In addition to the moving pictures, six baseball games were played on the home grounds and one minstrel show given.

*Amusement fund statement for the year.*

RECEIPTS.	EXPENDITURES.
Balance on hand.....	\$116.34
Donations during year.....	739.25
Received from sale of empty barrels, bags, egg cases, etc.....	184.20
 <hr/>	 <hr/>
Total.....	1,039.79
	Films.....
	Express on same.....
	Repairs to machine, etc.....
	Miscellaneous express.....
	Miscellaneous, for shows, baseball, phono- graph records, etc.....
	Balance on hand.....
	 <hr/>
	Total.....
	1,039.79

The equipment belonging to the amusement association includes a motion-picture machine, 2 phonographs, 110 phonograph records, baseball equipment, etc., all valued at about \$900. Its operations are all conducted without expense to the Government.

### Administration.

Increased attention has been given to the care of infirmary patients and to the cuisine. Canton-flannel pajamas have been substituted in the infirmary for cotton nightgowns; a new set of white enameled furniture has been installed in the wards; and the nurses' pantry fitted up with a gasoline stove, running water, and other improvements to facilitate the preparation of special diets. Two trained female nurses have been on duty in the infirmary during the year, lapses in their services having occurred for a total of 23 days only. Not the least of the advantages of their employment is that competent nurses can constantly be secured from training schools, agencies, or other reliable sources at a standard wage. Trained female nurses are not necessary here for the proper care of ambulatory patients, but they have elevated all our previous standards for nursing the bedridden.

Milk is cooled and bottled in pints at the dairy for the patients' table, and no complaint concerning milk has been received during the year. Forty-one thousand eight hundred and thirty-eight gallons were produced. A new milk house and cold-storage room has been built as an addition to the kitchen, and a new 8-ton compressor installed. We are now able to hang our beef for six weeks before consuming it, which adds greatly to its quality. Steers are also fat-

tened on corn and alfalfa before slaughtering whenever their conditon requires it. Permanent record is kept of all the menus served from both kitchens, and each meal is inspected by an officer.

An intercommunicating telephone system of 19 stations has been installed, putting all parts of the station in touch. Eight and one-half miles of range fence have been built, adding about 2,000 acres to our grazing land, and making a total of about  $41\frac{1}{2}$  square miles now under fence. Two new sleeping porches, each accommodating eight beds, have been built for consumptive attendants. A cemented cellar was dug beneath the vegetable room to prevent loss by freezing, and over \$18,000 has been expended in repair materials and renewals of equipment for the mechanical plant and the 32 buildings and 91 tent houses which make up the station. Five buildings have received new roofs and several have been renovated and painted. Two new deep-well pumps were installed and a softening plant for boiler feed water. The vegetable room and laundry were equipped with separate motors, and the ice-cream freezer, meat chopper, and potato peeler installed on a new cement floor in the former. One building, the old paint shop, was destroyed by fire.

Two medical officers of the United States Indian Service visited the station, remaining seven weeks and one week, respectively, for the purpose of studying the sanatorium treatment of tuberculosis.

#### **Cost of Maintenance.**

A total of \$127,762.86 has been expended at this station during the year, of which \$3,996.80 was for construction of new milk house and cold-storage room.

October 17, 1913

*Items of expenditure.*

	Per annum.	Per patient per day.
Salaries and cost of ration when issued as part of compensation:		
Medical officers.....	\$7,623.44	\$0.1155
Pharmacists and office force.....	5,928.07	.0898
Power-house force.....	3,465.88	.0525
Carpenters, plumbers, and painters.....	4,759.96	.0721
Nurses.....	4,856.29	.0735
Cooks and waiters.....	9,158.17	.1387
Laundry force.....	1,986.41	.0300
Expert farmer, dairymen, and fence riders <sup>1</sup> .....	9,061.07	.1372
Farm.....	3,659.87	.0554
General.....		
Ration:		
Subsistence supplies purchased.....	27,310.39	.4138
Beef, cost of production.....	4,204.13	.0637
Milk, cost of production.....	8,513.67	.1293
Repairs and renewals of equipment: <sup>2</sup>		
For buildings and tent houses.....	5,251.24	.0795
Furniture.....	1,287.57	.0195
For power plant, including pumps and electrical lighting material.....	8,053.94	.1205
For wards, kitchens, dining rooms, and miscellaneous.....	4,521.86	.0685
New construction.....	3,996.80	.0605
Fuel.....	14,277.61	.2164
Forage <sup>3</sup> .....	2,080.98	.0300
Oils and laundry supplies.....	3,030.40	.0460
Freight and transportation and miscellaneous <sup>4</sup> .....	505.78	.0076
Credit: Saved under item salaries, etc., by employing patients as attendants <sup>5</sup> .....	133,533.53	
	5,770.67	
	127,762.86	1.935

<sup>1</sup> Included in cost of milk and beef, respectively.<sup>2</sup> Repairs to dairy and new fencing are charged against cost of milk and beef, respectively.<sup>3</sup> This does not include \$8,910.94 for forage included in cost of milk and beef.<sup>4</sup> This item does not include the transportation of patients; nor are beds, bedding, drugs, and other supplies from the purveying depot in Washington included in this account.<sup>5</sup> This item is the value of their rations which are properly charged under "Ration."

Total expenditures.....	\$127,762.86
Refund from reimbursement from officers for subsistence supplies issued from stores <sup>1</sup> .....	\$795.02
Realized from sale of beef hides.....	1,390.81
Realized from sale of horses.....	300.00
Realized from sale of excess dairy calves.....	91.50
	2,577.33
Net expense.....	125,185.53
Net per patient per day.....	1.8968

If we eliminate the cost of repairs, renewals of equipment, and new construction our net cost per patient per day is \$1.5468. This figure is of no interest except to compare our cost with that of other institutions which do not reckon these items.

Institutional care of the advanced tuberculous is very expensive. If the laity were properly instructed and the profession sufficiently skilled, all tuberculosis would be diagnosed in incipiency and prolonged sanatorium treatment seldom needed. It is evident, however, that we must continue for a time, at least, to treat patients

<sup>1</sup> The money derived from refunds is turned into the general maintenance account Public Health Service, and that from the sale of hides, etc., to the general account of the Secretary of the Treasury.

suffering from the end results of tuberculosis, and for such institutional care is necessary.

The ration is seen in the above table to amount to \$0.6068 per day. If beef had been counted at contract price (\$0.1175 per pound by carcass) the cost of ration would have been \$0.6901.

Repairs and renewals of equipment, to which might also be added the salaries and rations of carpenters, plumbers, and painters, is a large item of expense, and always will be at this station, where there are over 30 buildings, all of which are old and 91 cheaply constructed tent houses. The coldest winter in the history of the station increased the expense for fuel, which amounted to \$9,166.59 for coal used in the power plant and ranges, and \$5,111.60 for wood used in tent houses and other quarters.

The item, \$4,856.29, for nursing is expended almost entirely in the infirmary, only \$581.47 of this amount being expended in the nursing of ambulatory patients.

Some economy has been effected by the burning of sawdust and chips in the power plant, 142 cubic yards having been collected on the grounds, and by the making of 900 gallons of soft soap for use in the kitchens.

Effort has been made to compare the cost of treatment at this sanatorium with that at similar institutions, and a list of all the large sanatoria from which data on this subject could be secured is appended.

*Cost of maintenance per patient per day in 53 representative sanatoria, 1912.*

Institution.	Location.	Average number of patients.	Percent-age of cases far advanced.	Cost per day.	Remarks.
United States Army General Hospital.	Fort Bayard, N. Mex.	246	50	\$3.12	Includes every expense.
United States Naval Hospital.	Las Animas, Colo.	128	.....	1.28	Does not include pay of officers and attendants.
The Agnes Memorial Sanatorium.	Denver, Colo. ....	148	.....	2.186	Includes every expense.
Sanatorium of Jewish Consumptives' Relief Society.	Edgewater, Colo. ....	113	.....	.977	Includes repairs to buildings and renewal of equipment.
Modern Woodmen Sanatorium for Tuberculosis.	Colorado Springs, Colo.	168	.....	1.95	Includes minor repairs.
National Jewish Hospital for Consumptives. <sup>1</sup>	Denver, Colo. ....	123	.....	1.872	Includes school, propaganda publicity, etc.
State Tuberculosis Colony No. 1.	Carlsbad, Tex. ....	62	65	1.547	No repairs included.
The Missouri State Sanatorium.	Mount Vernon, Mo.	147	.....	1.57	Includes repairs and renewals of equipment.
Robert Koch Hospital (hospital department, city of St. Louis).	Koch, Mo. ....	113	(2)	1.35	Does not include repairs and renewals.
Arkansas Tuberculosis Sanatorium.	Booneville, Ark. ....	78	.....	1.54	Do.
Los Angeles County Hospital.	Los Angeles, Cal. ....	590	.....	1.19	Ordinary repairs and renewals included.
City and County Hospital.	San Francisco, Cal. ....	361	.....	1.013	Includes minor repairs and renewals.
Minnesota State Sanatorium.	State Sanatorium, Minn.	.....	25.8	1.58	Includes repairs and renewals.

<sup>1</sup> Information obtained from annual report of sanatorium.

<sup>2</sup> Practically all.

*Cost of maintenance per patient per day in 53 representative sanatoria, 1912—Continued.*

Institution.	Location.	Average number of patients.	Percent-age of cases far advanced.	Cost per day.	Remarks.
Wisconsin State Tuberculosis Sanatorium.	Wales, Wis.....	119	14.38	\$1.936	Includes repairs and renewals. Do.
Michigan State Sanatorium for Tuberculosis.	Howell, Mich.....	62	33.33	1.66	
The State Sanatorium for the Treatment of Tuberculosis.	Oakdale, Iowa.....	107	.....	1.42	Includes repairs to buildings and ordinary renewals.
Ottawa Tuberculosis Colony.	Ottawa, Ill.....	51	.....	3.19	Includes every expense.
Indiana Tuberculosis Hospital.	Rockville, Ind.....	123	.....	1.07	Includes repairs and renewals.
Cincinnati Tuberculosis Hospital.	Cincinnati, Ohio..	279	85	.85	Includes renewals of equipment.
Ohio State Sanatorium for Incipient Tuberculosis.	Mount Vernon, Ohio.....	.....	.....	1.595	Includes repairs and new equipment.
District Tuberculosis Hospital.	Springfield, Ohio..	40	33.33	.85	Includes repairs to buildings and renewal of equipment.
Philadelphia Protestant Episcopal City Mission. Tuberculosis League Hospital.	Chestnut Hill, Pa..	72	80	1.50	Includes repairs and renewals of equipment.
Philadelphia General Hospital.	Pittsburgh, Pa....	80	75	1.76	Includes renewals of equipment.
The Workmen's Circle Sanatorium.	Philadelphia, Pa..	285	75	.75	Does not include repairs to buildings.
Montefiore Home Country Sanitarium.	Liberty, N. Y.....	.....	5	1.57	Includes repairs and renewals of buildings.
J. N. Adams Memorial Hospital.	Bedford Station, N. Y.	177	11.9	.977	Includes repairs to buildings and renewals of equipment.
Tuberculosis Sanatorium of Department of Health, City of New York.	Perrysburg, N. Y..	100	10	2.07	Includes repairs to buildings and equipment.
Tuberculosis Cottages, Kings County Hospital.	Otisville, N. Y....	512	12	1.00	
House of Rest for Consumptives. <sup>1</sup>	Brooklyn, N. Y...	60	20	1.18	Does not include extraordinary repairs and new buildings.
Adirondack Cottage Sanitarium. <sup>2</sup>	New York, N. Y..	56	.....	1.54	
New York State Hospital for Incipient Tuberculosis.	Saranac Lake, N. Y.	117	.....	1.82	
New York State Soldiers' and Sailors' Home.	Ray Brook, N. Y.....	.....	.....	1.352	Includes minor repairs.
Stony Wold Sanatorium...	Bath, N. Y.....	1,652	25	.728	Includes interest, insurance, all repairs to buildings, water and sewerage plant, etc., cost of operating New York office, and expense of soliciting and obtaining funds.
Iola Sanatorium (Monroe County Tuberculosis Hospital). <sup>2</sup>	Lake Kushqua, N. Y.	102	.....	1.95	
The Gaylord Farm Sanatorium.	Rochester, N. Y ...	.....	.....	1.414	
Fairfield County State Tuberculosis Sanatorium.	Wallingford, Conn.	90	.....	1.57	Everything included except construction and new equipment.
Rhode Island State Sanatorium.	Shelton, Conn.....	72	.....	1.65	Includes salaries and wages, subsistence, ordinary repairs and office, domestic, and outdoor expenses.
Rutland State Sanatorium.	Wallum Lake, R. I.	134	6.5	1.374	Includes repairs and renewals.
North Reading State Sanatorium. <sup>2</sup>	Rutland, Mass....	346	16.07	1.45	Ordinary repairs and improvements included.
Lakeville State Sanatorium. <sup>2</sup>	North Reading, Mass.	168	.....	1.27	
Westfield State Sanatorium. <sup>2</sup>	Middleboro, Mass.	172	.....	1.37	
Boston Consumptives Hospital. <sup>2</sup>	Westfield, Mass...	176	60	1.348	
	Mattapan, Boston, Mass.	131	83	1.44	

<sup>1</sup> Information obtained from Journal of the Outdoor Life.<sup>2</sup> Information obtained from annual report of sanatorium.

*Cost of maintenance per patient per day in 53 representative sanatoria, 1912—Continued.*

Institution.	Location.	Average number of patients.	Percent-age of cases far advanced.	Cost per day.	Remarks.
Long Island Hospital (tuberculosis hospital).	Boston Harbor, Mass.	80	75	\$1.00	Includes renewals and repairs, not new construction.
City Tuberculosis Hospital.	Lawrence, Mass...	54	( <sup>1</sup> )	1.46	Includes repairs to building and renewals of equipment.
New Hampshire State Sanatorium.	Glencliff, N. H....	44	47.3	1.545	Includes renewals and repairs.
Maine State Sanatorium... Laurel Hill, Hudson County, Tuberculosis Hospital and Sanatorium.	Hebron, Me..... Secaucus, N. J....	63 108	----- 82	2.00 1.23	Does not include repairs to buildings or renewals of equipment.
New Jersey Sanatorium for Tuberculous Diseases.	Glen Gardner, N. J.	172	( <sup>2</sup> )	1.26	Includes repairs and renewals.
Maryland Tuberculosis Sanatorium, <sup>3</sup> Hospital for Consumptives of Maryland.	State Sanatorium, Md. Towson, Md.....	274	-----	1.01 1.03	Includes repairs and renewals, buildings, and equipment.
Catawba Sanatorium (State).	Catawba Sanatorium, Va.	107	-----	1.527	Includes repairs to buildings, renewals, work on roads, etc.
The Tuberculosis Hospital of the District of Columbia.	Washington, D. C.	74	-----	1.39	Includes repairs to buildings.

<sup>1</sup> 40 per cent advanced.<sup>2</sup> 75 per cent advanced.<sup>3</sup> Information obtained from annual report of sanatorium.

NOTE.—In all cases where the source of information is not given, data was furnished in letter from superintendent of sanatorium.

**The Farm.**

The farm and dairy have been operated at a small profit during the year. This profit could have been increased at will by raising the price of any of the products, such as eggs, above the contract price. As a matter of fact, the farm is indispensable to the successful operation of the sanatorium. The item "Labor loaned sanatorium" covers many exigencies of sanatorium administration calling for additional help; in the same way alternate Sunday relief was afforded employees of the sanatorium.

*Statement of farm account.*

DR.	CR.
Salaries and ration, including expert farmer, dairymen, and fence riders... \$15,326.29	Pork, 4,622 pounds, at \$0.123 (contract price)..... \$568.50
Forage purchased..... 10,991.89	Eggs, 791 dozen, at \$0.27 (contract price). 213.57
Repair materials, farm machinery, dairy equipment, etc..... 1,607.44	Poultry, 321 pounds, at \$0.24 (contract price)..... 77.04
Profit..... 1,227.47	Beef, 112,708 pounds, at \$0.1175 (contract price)..... 13,243.19
	Milk, 41,838 gallons, at \$0.282..... 11,832.85
	Garden produce..... 114.76
	Horses sold..... 300.00
	Hides sold..... 1,390.81
	Calves sold..... 91.50
	Labor loaned sanatorium..... 1,410.87
29,243.09	29,243.09

October 17, 1913

The alfalfa produced on the farm, 131 tons, and the ensilage and other forage are not recorded as a farm credit, as these were all consumed in the production of milk and beef.

Milk has been credited at cost of production, as we have no contract price on this article. It would be practically impossible to buy bottled milk from a tuberculin tested pure bred Jersey herd at any price in this locality.

*Herd report.*

	Roundup, October, 1912.	Butchered.	Died.	Number, July 1, 1913.
<b>Range:</b>				
Cows.....	830	2	82	746
Bulls.....	32		1	31
3-year-old steers.....	139	130	6	3
2-year-old steers.....	171		3	188
Yearlings.....	324		24	300
Calves (1912).....	587	70	15	502
Calves (1913).....				345
<b>Dairy:</b>				
Cows.....	133	5	8	120
Bulls.....	3		1	2
Heifers.....	7			7
Veal calves.....	2	2		
Calves.....	24		1	23
Calves (1913).....				19
	2,252	209	141	2,286

Increase during the year, 14.

The present number of cattle is just about sufficient to furnish the station with beef, veal, and milk. It is also all the range will accommodate. In this neighborhood about 20 acres per head is allowed for pasturage on a large scale, and according to this estimate our range is overstocked, but the Government range is superior to the average grazing land in this region, and, with some additional watering facilities, will probably accommodate our present number of cattle without risk of loss in good seasons.

The losses were due chiefly to starvation and exhaustion from traveling long distances to water and were not greater than the usual losses from these causes at other ranches in this neighborhood. Large loss from blackleg among the young stock was prevented by thorough vaccination. At the present time we are threatened with great shortage of grass, owing to an unusually dry summer. Cattlemen in the southwest are endeavoring to dispose of large numbers of their cattle for this reason.

All dairy cows were given the customary biennial tuberculin test, with negative results. No case of tuberculosis has yet been found among the dairy or range herds at this station.